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09/540,178	03/31/2000	Stephen R. Vogel	DIVA-244	2614

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MOSER, PATTERSON & SHERIDAN L.L.P.  
595 SHREWSBURY AVE  
FIRST FLOOR  
SHREWSBURY, NJ 07702

EXAMINER
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NALEVANKO, CHRISTOPHER R

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 09/08/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No

09/540,178

Applicant(s)

VOGEL ET AL.

Examiner

Christopher R Nalevanko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 March 0200.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 14 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 14, there is insufficient explanation of the 'out-of-band signal'. It is unclear whether this is a back channel of some sort, distortion, noise, or some other aspect of the signal. Also, there is no reference point to what is in-band and out-of-band. Further clarification is required.

Regarding Claim 19, the "asserting switch controller serves as primary switch controller" is unclear. It is difficult to understand if the Applicant is referring to the acting controller or controller that is currently operating. Further clarification is required.

***Claim Rejections - 35 USC § 103***

The following rejections are based upon the Examiner's best understanding of the limitations in light of the above 35 USC 112 2<sup>nd</sup> paragraph rejection.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al.

Regarding Claim 1, Edmonds shows an apparatus having redundant provider equipment for improving fault tolerance comprising a server, comprising a plurality of server modules coupled to a switch switch, and a head-end controller coupled to each server module of the plurality of server modules via at least two signal paths, wherein communications between the head-end controller and each of the server modules is coincidentally sent through the two signal paths (col. 2 lines 50-67, col. 6 lines 1-35, col. 7 lines 25-67, col. 8 lines 1-13, see figure 5 items 210, 214, 216, 204). Edmonds fails to show that the switch is a video switch. Official Notice is taken that it is well known and expected in the art to send video data across a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds with the a video swtich to provide the users with a wide range of data types.

Regarding Claim 2, Edmonds further shows that a plurality of subscriber equipment is capable of interfacing with the at least one head-end controller and server for receiving information upon request (see figure 5 items 200, 202). Edmonds fails to show that this data is video data. Official Notice is taken that it is well known and expected in the art to send video data across a network. Therefore, it would have been

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obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds with the ability to send video data to provide the users with a wide range of data types.

Regarding Claim 3, Edmonds shows at least two switches coupled between the at least one head-end controller and the server modules (see figure 5 items 210, 212).

Regarding Claim 8, Edmonds shows that the switch has a plurality of I/O ports coupled to the server modules and subscriber equipment for transferring the information (see figure 5 item 210). Edmonds further shows at least two switch controllers coupled to a head-end controller (see figure 5 items 210, 212, 214, 216, 218, 220) and the I/O ports, wherein the one of two switch controllers serves as a primary switch controller for routing the information between the I/O ports, and a second switch controller serves as a secondary switch controller for monitoring status of the I/O ports, whereby the secondary switch controller initiates a switchover in an instance of a failure (col. 7 lines 23-67, col. 8 lines 1-13, col. 2 lines 1-27, 35-50).

Regarding Claim 9, Edmonds shows that the switch controller, or director, is coupled to the head-end controller, or server, via one of the switches and the second controller is coupled to the server via second switch (see figure 5 items 210, 214, 216, col. 7 lines 25-55). Edmonds states that the Web server may provide 'system management,' which executes processes of a head-end controller (col. 7 lines 30-33).

Regarding Claim 10, all the limitations of the claim have been discussed with regards to Claim 9.

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3. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al in further view of Fujisaki et al.

Regarding Claim 4, Edmonds fails to show an initial message, a redundant message, and the selection of one of them. Fujisaki shows the ability to send redundant messages across a network and the ability to discard messages that have been already received (col. 4 lines 35-56, col. 6 lines 60-67). Furthermore, these signals must travel through switches, controllers, and servers since they are being sent through a large network (see fig. 2A). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds with the ability to send redundant messages, like Fujisaki, to ensure that the messages would be received at the termination point.

Regarding Claim 5, Fujisaki shows disregarding either the initial or redundant message (col. 4 lines 35-56, col. 6 lines 60-67).

Regarding Claim 6, Fujisaki shows the ability to send redundant messages across a network and the ability to discard messages that have been already received (col. 4 lines 35-56, col. 6 lines 60-67). Furthermore, these signals must travel through switches, controllers, and servers since they are being sent through a large network (see fig. 2A). Fujisaki fails to show that these messages are acknowledgement messages. Official Notice is taken that it is well known and expected in the art for a device to send a message to the message source to acknowledge the receipt of the data. This takes place in all networks with hand-shaking and is essential for the proper functioning of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the

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time the invention was made to modify Fujisaki with the ability to send an acknowledgement message to show that the system was aware of a signals receipt.

Regarding Claim 7, Fujisaki shows disregarding either the initial or redundant message (col. 4 lines 35-56, col. 6 lines 60-67).

4. Claims 11 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al in further view of Deitz et al.

Regarding Claim 11, although not specifically stated, it is nonetheless inherent that there must be a switch processor within the switch for processing control commands between the head-end controllers and switch controllers, and between the controllers and the I/O ports. This is inherent to all digitally controlled switches so that they may function properly in routing signals to a designated location. Furthermore, Official Notice is taken that it is well known and expected in the art to use a switch matrix for routing signals. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds with a switch matrix so that his system would use industry known techniques helping the compatibility of the system.

Edmonds fails to show a timer for periodically querying the operational status of the controllers. Deitz shows a 'pinging' system that periodically queries controllers to see if the controllers are operational (col. 7 lines 30-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds with the ability to query the switch controllers so that the system would know when a switch has failed.

Regarding Claim 20, Edmonds shows a plurality of switch controllers, switches, and I/O ports (see figure 5). Edmonds fails to shows the pinging system. Deitz shows sending periodic pinging commands, setting a timer, and monitoring the status of the system (col. 7 lines 1-67, col. 8 lines 1-20). It is inherent that there must be some register that stores that operational status of the ports or transmission. Also, when pinging the register, it is inherent that some bit is going to be set to indicate the status of the system. Without this step, the status would not be updated periodically. Also, the timer that pings the system must be reset at some point to restart the pinging process. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds with the ability to query the switch controllers so that the system would know when a switch has failed.

Regarding Claim 21, Deitz shows the ability to switch over to a secondary controller in the event of an error (col. 7 lines 1-67, col. 8 lines 1-20). Also, it is inherent that this error would be indicated by the setting of some bit, or lack thereof, which indicates, digitally, the status of the system.

Regarding Claim 22, Edmonds shows a plurality of switch controllers, switches, and I/O ports (see figure 5). Edmonds fails to shows the pinging system. Deitz shows sending periodic pinging commands, setting a timer, and monitoring the status of the system (col. 7 lines 1-67, col. 8 lines 1-20). It is inherent that there must be some register that stores that operational status of the ports or transmission. Also, when pinging the register, it is inherent that some bit is going to be set to indicate the status of the system. Without this step, the status would not be updated periodically. Also, the timer that pings



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the system must be reset at some point to restart the pinging process. Also, if the pinging command indicated that there was an error, it is inherent that the system would indicate an error message in a register, which is the way digital information is stored. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds with the ability to query the switch controllers so that the system would know when a switch has failed.

Regarding Claim 23, Deitz shows the ability to switch over to a secondary controller in the event of an error (col. 7 lines 1-67, col. 8 lines 1-20). Also, it is inherent that this error would be indicated by the setting of some bit, or lack thereof, which indicates, digitally, the status of the system.

Regarding Claim 24, Deitz shows the use of a 'heart beat' signal that sends pinging commands to a plurality of ports (col. 7 lines 30-43).

Regarding Claim 25, Deitz fails to show the use of 'point-casting'. Official Notice is taken that it is well known and expected in the art to send a message to just one of a plurality of devices. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Deitz and Edmonds with the ability to 'point-cast' show that bandwidth is not taken up by broadcasting.

5. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al in further view of Deitz et al and Miyamoto et al.

Regarding Claim 12, Deitz shows the ability to send periodic messages, or pinging, to controllers and the ability to indicate a problem when a certain time elapses.

Furthermore, if these messages are periodic, it is inherent that there is some type of timer coupled to the sending apparatus (col. 6 lines 64-67, col. 7 lines 30-50). Also, although not specifically stated, it is inherent that the system must have a control registers to receive and store commands from the switch controller. Without this equipment, the system would not route signals properly or execute commands correctly. Edmonds and Deitz fail to show a plurality of status registers. Miyamoto shows status registers that store the state of the system controllers to indicate whether or not that section of the system is operational or has failed (col. 11 lines 15-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds and Deitz with the status registers so that the system would be able to store the condition of the system for reference.

Dietz and Miyamoto also fail to show the use of a memory table for storing routing addresses. Official Notice is taken that it is well known and expected in the art to use tables to store the routing addresses of components in a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include memory tables so that the system would know the proper destination to send messages.

Regarding Claim 13, Miyamoto further shows pinging, or polling messages, to the system for information (col. 11 lines 1-14). Furthermore, it is inherent that there are control registers storing information about the system. Miyamoto further shows setting status registers with the appropriate information regarding the operational status of the system. Also, Miyamoto shows that if the status of the system is "occurrence of fault"

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then a back up system initiates (col. 11 lines 1-67, col. 12 lines 1-67). It is also inherent that the status of the system is stored as bits.

Regarding Claim 14, Miyamoto further shows polling messages to the system for information (col. 11 lines 1-14). Furthermore, it is inherent that there are control registers storing information about the system. Miyamoto further shows setting status registers with the appropriate information regarding the operational status of the system. Also, Miyamoto shows that if the status of the system is "occurrence of fault" then a back up system initiates (col. 11 lines 1-67, col. 12 lines 1-67). It is also inherent that the status of the system is stored as bits. Deitz also shows registering an error if an elapsed time has occurred between polling messages (col. 6 lines 64-67).

6. Claim 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisaki et al.

Regarding Claim 15, Fujisaki shows transmitting a plurality of messages having duplicate content from a controller to a server. It is inherent that the information will pass from main controller to some server because of the fact that this is in a networked system. Fujisaki shows routing a plurality of messages through alternate paths, accepting one message that arrives first and disregarding the other message that arrives after (col. 4 lines 35-56, col. 5 lines 38-60, col. 6 lines 55-57). Fujisaki fails to show that there are acknowledgement messages. Official Notice is taken that it is well known and expected in the art for a device to send a message to the message source to acknowledge the receipt of the data. This takes place in all networks with hand-shaking and is essential for the proper functioning of the system. Therefore, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to modify Fujisaki with the ability to send an acknowledgement message to show that the system was aware of a signals receipt.

Regarding Claim 16, Fujisaki shows the ability to send messages to through alternate paths, accepting one of the messages, and disregarding the other (col. 4 lines 35-56, col. 5 lines 38-60, col. 6 lines 55-57). Fujisaki fails to show that these are acknowledgement messages. Official Notice is taken that it is well known and expected in the art for a device to send a message to the message source to acknowledge the receipt of the data. This takes place in all networks with hand-shaking and is essential for the proper functioning of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fujisaki with the ability to send the acknowledgement messages show that the system was aware of a signals receipt. Furthermore, with this redundant message system, it would allow the acknowledgement messages to have some sort of back up in case the first message failed.

7. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al in further view of Miyamoto et al.

Regarding Claim 17, Edmonds shows a plurality of switch controllers with the ability to switch to a second controller in the event of a failure (col. 2 lines 1-27, see figure 5 items 216 and 220). Edmonds fails to show performing a self diagnostic test, although it is implied. Miyamoto shows performing a self diagnostic test and asserting a controller ok and ready signal, or "normal state", allowing the controllers to be online to indicate functionality, monitoring the status of the controllers (col. 11 lines 1-67, col. 12

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lines 1-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds with the self-diagnostic abilities of Miyamoto so that the system could indicate a failed part of the system.

Regarding Claim 18, Miyamoto shows periodically performing the self-diagnostic tests at the controllers, initiating a controller OK signal, and de-asserting the OK signal if the controller fails to pass the diagnostic (col. 11 lines 1-67, col. 12 lines 1-67).

Regarding Claim 19, Miyamoto shows being able to indicate that the controller is online, or "normal state" (col. 12 lines 1-17). It is inherent to indicate this as a default so that the system will begin its cycle online and functional.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ohuchi et al U.S. Patent No. 5,619,641 discloses a signal processing apparatus.

Fleming et al U.S. Patent No. 6,035,415 discloses a fault-tolerant processing method.

Egawa et al U.S. Patent No. 5,717,854 discloses a multimedia server.

Wakai et al U.S. Patent No. 5,973,722 discloses a combined digital audio/video on demand and broadcast distribution system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R Nalevanko whose telephone number is 703-305-8093. The examiner can normally be reached on M-F 8-5.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on 703-305-4380. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Christopher Nalevanko  
AU 2611  
703-305-8093

cn  
August 25, 2003

  
ANDREW FAILE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600